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Training a Joint and Expeditionary Mindset

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TRAINING A JOINT AND EXPEDITIONARY MINDSET

EXECUTIVE SUMMARY

Research Requirement:

The Army currently provides Joint Forces with campaign-quality combat, combat support, and combat service support capabilities necessary to conduct sustained land warfare. The challenge Army leaders now face, however, is how to transform their organization, processes, doctrine, and culture to create an expeditionary force that (1) is mentally prepared to deploy anywhere in the world on short notice, (2) appreciates and works cooperatively with other members of a Joint team, (3) possesses sufficient knowledge of the culture in the area of operations to be able to interact with the local populace, and (4) has the critical-thinking skills to adapt quickly to a rapidly changing operational environment. The research described in this report was designed to identify the knowledge and skills Soldiers need for developing a Joint and Expeditionary Mindset and to design a blueprint for a computer-mediated training and technologies to develop these skills.

Procedure:

This investigation used qualitative analysis methods, including an extensive literature review, document review, and interviews with experienced joint forces troops to identify the constructs and associated skills required for a Joint and Expeditionary Mindset (JEM). Literature review was also used to identify proven strategies and best practices for developing the required skills and creating effective computer-mediated training.

Findings:

This report details the primary and subordinate constructs associated with JEM, including those relating to interoperability, cognitive readiness, adaptability, and human intelligence. To develop the associated skills, this investigation proposed a multiphase process to ensure the instructional rigor of scenarios and provide a sound basis for determining performance indicators. The pedagogical model enables development of scenarios that challenge Soldiers in cognitive, affective, metacognitive, and moral dimensions. The scenario design blueprint is then completed as the skills, indicators and measures are identified adding to the core structure of scenarios. Two interrelated proof of concept scenarios were developed based on this model and demonstrated to an academic military audience. Results indicated the viability of this approach.

Utilization of and Dissemination of Findings:

This research outlines a strategy for developing computer-mediated events designed to develop a joint and expeditionary mindset. The framework provides a deliberate method for systematically accounting for and organizing the variables that develop Soldiers' readiness for adapting to the rapidly changing needs and circumstances of their deployments. Deliberate sequencing and manipulation of variables within scenarios fosters Soldiers' abilities to learn from their experiences, exploiting the power of the technology. By carefully examining the constructs and underlying skills, we have proposed a methodology for ensuring the instructional rigor of the scenarios and have provided a basis for identifying performance indicators.

TRAINING A JOINT AND EXPEDITIONARY MINDSET

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Background

The success of the Global War on Terrorism depends on the Army's ability to provide Joint Forces with relevant and ready capabilities to support national security and defense strategies. The Army currently provides Joint Forces with campaign-quality combat, combat support, and combat service support capabilities necessary to conduct sustained land warfare. However, the challenge Army leaders now face is how to transform their organization, processes, doctrine, and culture to create an expeditionary force that (1) is mentally prepared to deploy anywhere in the world on short notice, (2) appreciates and works cooperatively with other members of a Joint team, (3) possesses sufficient knowledge of the culture in the area of operations to be able to interact with the local populace, and (4) has the critical-thinking skills to adapt quickly to a rapidly changing operational environment.

Cultural knowledge—or lack of it—can have a significant impact on the success or failure of a mission. Ground component forces are likely to perform Joint operations in which they must be interdependent with cultures of other Services, other governmental and non-governmental agencies, multi-national forces, and the populations of countries in which they are operating. Knowledge of and respect for cultural differences between the Army and other members of a Joint team will enhance communication and teamwork. Ground forces also need to know enough about the culture of the area of operations to avoid insensitive conduct that alienates locals, to move comfortably about, and to establish relationships that may lead to actionable intelligence.

Ground forces also need to be flexible, innovative, and intuitive in order to adapt to rapidly changing needs and circumstances. In Iraq and Afghanistan, junior Soldiers and Marines today are making decisions that in previous wars were reserved for far more senior officers. These problem-solving and decision-making skills must be learned. However, experience alone is not always the best teacher. Soldiers need to learn metacognitive skills that will enable them to learn from experience—to examine what they did and why they did it, to reflect on the effectiveness of their actions and weigh alternatives, and to consider the consequences of their actions before they act.

The Global War on Terrorism requires that Soldiers approach warfare with a new mindset, one that enables them to be ready to deploy anywhere in the world on short notice, work cooperatively with Joint team members, be adaptable and learn quickly in an unknown culture, exercise judgment, be self-aware, and think incisively in order to make effective decisions under increasingly demanding conditions. To participate effectively in this new operational paradigm, Soldiers must develop a Joint and Expeditionary Mindset.

Project Overview

The subject research was Phase I of a possible three-phased effort to develop a computer-mediated training environment to help ground-component forces develop the cognitive and affective skills needed to meet the challenges of being part of a Joint and Expeditionary force. These skills are critical for effective performance of Combat Arms, Combat Support, Combat Service Support, and Reserve and National Guard components in the new operational environment.

For Phase I, Intelligent Decision Systems, Inc. (IDSI) conducted research to determine the constructs and associated skills that comprise a Joint and Expeditionary Mindset (JEM). We also researched candidate computer-mediated training technologies and environments that could be used for effective training of these skill sets. IDSI used the findings from these efforts to develop a pedagogical framework for developing instructionally sound, research-driven scenario-based training. This framework formed a blueprint on which to build training scenarios that were then developed as a proof of concept. For this undertaking, IDSI teamed with Forterra Systems, utilizing their extensive expertise in massively multiplayer online gaming (MMOG) and other computer-mediated training tools.

Research Questions

To guide the Phase I research, we asked the following questions:

1. What are the constructs and their components associated with Joint and Expeditionary Mindset relevant to Joint capabilities?
2. What are the cognitive and affective skills that are integral to a Joint and Expeditionary Mindset?
3. What are the gaps in existing training in meeting morale and performance challenges related to a Joint and Expeditionary Mindset?
4. What training methods/environments would be most effective to teach the cognitive and affective skills required? (Strategies and types of environments)
5. What indicators can be used to determine learner's attainment of the skills associated with a Joint and Expeditionary Mindset?

Methods

Because we were seeking understanding of a phenomenon, we used a qualitative approach involving literature reviews, document analyses, and interviews with experts. We began our research by reviewing the research literature and conducting interviews with active-duty military personnel and academic military researchers to identify the constructs and skills sets required for the development of a Joint and Expeditionary Mindset. This was a recursive process as we examined the research literature related to issues raised by interviewees and raised issues with interviewees that were discussed in the research literature.

The Phase I proof of concept was designed to demonstrate the ability to take what is known to be a training need and create opportunities for a training simulation to be used in varied and multiple environments. To ensure the need for and timeliness of the scenario story line and events, we contacted active duty military personnel who had just returned from theaters in Afghanistan and Iraq. We interviewed two Army colonels, one Navy chief assigned to an Army unit, one Navy psychiatric nurse, and a Navy commander who had recently returned from a Joint mission. They provided insights into the issues that contribute to and detract from the development of a Joint and Expeditionary Mindset.

We then contacted a potential transition customer from the 10th Mountain Division, who will lead the 1st Brigade. He provided descriptions of situations that require JEM training. We then determined which of the learning objectives would be best represented in these situations and created a scenario outline. After our initial story line was developed, the lieutenant colonel provided additional guidance on the authenticity and relevance of the scenarios.

During the same time period we contacted faculty at the United States Military Academy to discuss the types of constructs we were examining and the strategies for developing the associated skills. Faculty provided us with additional insights and research articles.

Our findings formed the blueprint on which to build training scenarios developed as a proof of concept. The primary and subordinate constructs are discussed in the sections below.

Findings

Research identified several interrelated constructs that compose the Joint and Expeditionary Mindset (JEM). An understanding of each, and the knowledge and skills that represent these constructs in the operational environment provide the foundation for developing computer-mediated training.

JEM Primary and Subordinate Constructs

The complexity of a Joint and Expeditionary Mindset (JEM) is reflected in the interweaving of multiple primary and subordinate constructs. Each construct has applicability to a warfighter's performance in the operational environment and is associated with specific skills. Table 1 lists each of the primary constructs and the associated subordinate constructs. This depiction provides a structure for describing the JEM constructs and the relationships among them.

Table 1

Primary and Subordinate JEM Constructs

Interoperability
Shared cognition
Joint/coalition cultural awareness
Team interaction
Cognitive readiness
Self-efficacy
Operational cultural awareness
Resilience
Critical value determination
Adaptability
Strategic intuition
Metacognitive capability
Human agency
Human Intelligence (HUMINT)
Social intelligence
Situational awareness

Primary Constructs

Research efforts identified four primary constructs required for the leadership, communication, acculturation, decision-making, and problem-solving skills in a Joint and Expeditionary Mindset.

- *Interoperability* is "The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together" (DoD, 2005, p. 274; *Joint Vision 2020*, 2000, p. 20).
- *Cognitive readiness* refers to the mental preparedness to perform a mission and to exploit opportunities as they arise. It involves "...anticipation, planning, initiative, the integration of reason and emotion, and self-synchronization" (Wesensten, Belenky, & Balkin, 2005, p. 98). Cognitive readiness ensures that the warfighter is mentally prepared for accomplishing the mission, is performing at his or her optimal performance level, and uses the most effective and affordable tools and techniques (Etter, Foster, & Steele, 2000).
- *Adaptability* is the ability to adjust one's thinking and actions by selectively invoking and employing various cognitive scripts in order to maintain optimal performance in rapidly changing operational situations. A cognitive script is an organizational

schema that presents a standard event sequence that governs behavior within a given context (Schank & Abelson, as cited in Allington, 2005). Experience and knowledge provide a library of alternative scripts from which a person may draw in order to adapt to changing conditions and requirements.

- *HUMINT capability* is the ability of a warfighter to collect and communicate actionable intelligence (Patton, 2003). In an expeditionary force, every Soldier must be a sensor; each must be constantly aware of his or her surroundings, noting anything unusual and anything that changes in such a way as to arouse suspicion. HUMINT requires vigilance, judgment, and good communication skills.

Subordinate Constructs, Application in the Field, and Associated Skills

Each of the primary constructs consists of multiple subordinate constructs that further define a Joint and Expeditionary Mindset. These subordinate constructs, gleaned from an extensive literature review, have specific applicability in the Field and are associated with one or more concrete skills. Mastery of these skills is necessary for attainment of a Joint and Expeditionary Mindset.

INTEROPERABILITY

Interoperability involves three subordinate constructs: shared cognition, Joint/coalition cultural awareness, and the team interaction model.

- *Shared cognition* is an intellectual process engaged in by members of a team in order to gain "...overlapping, similar, identical, complimentary [sic], or distributed" knowledge, as well as the resulting knowledge gained through this process (Hopp, Smith, & Hayne, 2002, p. 5). A related concept is transactive memory, which is "A shared system for encoding, storing, and retrieving information" (Wegner, as cited in Wegner, Raymond, & Erber, 1991, p. 923).

Application in the Field: Shared cognition results in shared mental models, which enable a team "to form accurate explanations and expectations for the task, and, in turn, to coordinate their actions and adapt their behavior to demands of the task and other team members" (Cannon-Bowers, Salas, & Converse, 1993, p. 228).

Skills:

1. Use a four-step process to develop shared mental models: (1) inquire, (2) reflect, (3) share and negotiate, and (4) integrate.
2. Develop shared mental models (SMM): (1) team SMM, including an understanding of team interactions and teammates' knowledge, skills, abilities, beliefs, preferences, and styles, and (2) task SMM, including a shared understanding of typical task strategies, procedures, tools/equipment, the task environment, and likely scenarios (Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000).
3. Develop a distributed network of knowledge and expertise.

- *Joint/Coalition cultural awareness* is knowledge of and sensitivity to the cultural norms of each Joint and Coalition partner. Each organizational culture manifests itself in a variety of ways, including missions, roles, procurement philosophy, leadership styles, and members' attitudes, behaviors, and lexicons (DiMarco, 2004).

Application in the Field: Knowledge and understanding of the culture of other Joint and Coalition forces minimizes culture-related conflict and enhances interoperability.

Skills:

1. Demonstrate knowledge and appreciation of other armed services' traditions, trademark characteristics, major subcultures, approach to warfighting, information sources, patterns of interaction, and channels and modes of communication.
 2. Demonstrate knowledge and appreciation of Joint and coalition members' roles and responsibilities within the team and the unique knowledge, skills, and abilities that enable them to fulfill these roles and responsibilities.
- *Team interaction model* is a three-part model for establishing and maintaining a team focus, including: (1) realization of the synergistic potential and interdependence of team members, (2) the knowledge and appreciation of individual members' roles and specialized knowledge and skills, and (3) the commitment to share information and operate collaboratively to optimize team performance and accomplish the mission.

Application in the Field: All branches of the military emphasize a team focus, but with Joint operations a team may include men and women from other services with different traditions, abilities, and expectations. Reforging a team that is inclusive of people from different services or countries is critical to interoperability and mission accomplishment.

Skills:

1. Collaboratively solve problems.
2. Provide Joint team members information about and access to relevant cultural activities and tools.
3. Demonstrate effective Joint team communication.
4. Demonstrate ability to coordinate actions with other team members.
5. Develop a community of practice with Joint team members.

COGNITIVE READINESS

Cognitive readiness involves four subordinate constructs: self-efficacy, operational cultural awareness, resilience, and critical value determination.

- *Self-efficacy* is the belief that one can perform a given task or influence events that affect one's life. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave (Bandura, 1994).

Application in the Field: If Soldiers do not believe that their actions can produce the outcomes they desire, then they will not be motivated to persevere in the face of difficulties. Self-efficacy determines whether they will think pessimistically or optimistically, which in turn will influence their actions, their self-regulation, and their vulnerability to stress and depression.

Skills:

1. Draw on life experiences to prepare for current situations.
 2. Exhibit vicarious learning from others' performance.
 3. Use metacognitive reflection to recognize and compensate for the negative effect of anxiety or stress on self-efficacy.
- *Operational cultural awareness* is knowledge of and sensitivity to the cultural norms of the population in the operational environment (Department of the Army, 2005).

Application in the Field: Operational cultural awareness will minimize culture-related conflict, enhance HUMINT capability, and facilitate freedom of maneuver and force protection (Department of the Army, 2005).

Skills:

1. Distinguish between warfighting and nation building in terms of the warfighter's role.
 2. Demonstrate knowledge of the area of operations, including:
 - a. local geography,
 - b. current sociopolitical situation,
 - c. culturally determined values,
 - d. cultural behavior norms,
 - e. dominant religions and ways they are manifested in the attitudes and behaviors of the local population,
 - f. basic phrases and critical words in the local language and dialect,
 - g. acceptable and unacceptable body language,
 - h. cultural differences in interpretation of body language,
 - i. physical characteristics that help to differentiate among various groups within the local population (e.g., color or pattern of a male Arab's headdress),
 - j. interactions that identify leaders in the local populace,
 - k. local supply sources,
 - l. local intelligence sources,
 - m. history of the region.
- *Resilience* is the "ability to recover from or adjust easily to misfortune or change" (Merriam-Webster Unabridged, 2002). It involves the development of coping strategies to maintain optimal performance by reducing vulnerability to operational

stressors (e.g., separation anxiety, environmental extremes, dehydration, high operational tempo, and sleep deprivation) or traumatic situations (e.g., sustaining a wound or witnessing the death of a friend).

Application in the Field: Resilience enables warfighters to maintain team focus, battlefield awareness, and operational effectiveness while under continued stress and in response to traumatic events.

Skills:

1. Identify physical and emotional reactions to trauma.
 2. Demonstrate effective coping strategies.
 3. Recognize ineffective coping strategies.
- *Critical value determination* is "An experiment in finding out what the various lines of possible action are really like. . . . But the trial is in imagination, not in overt fact. . . . An act overtly tried out is irrevocable, its consequences cannot be blotted out. An act tried out in imagination is not final or fatal. It is retrievable" (Dewey, 1922/1983, pp. 132–133, as cited in Garrison, 1997). Critical value determination involves: (1) reflecting beforehand on personal attitudes toward cultural differences, (2) envisioning possible scenarios that may develop, (3) considering possible actions based on received intelligence and cultural awareness, (4) speculating about the possible consequences of each action, and (5) deciding on an action or group of actions that are aligned with one's values and with Army doctrine.

Application in the Field: Critical value determination is essential to successful interactions with civilians in either a counterinsurgency or peacekeeping mission. A warfighter's actions can have far-reaching as well as immediate consequences. By using critical value determination prior to a mission, the warfighter is more likely to avoid unnecessary confrontation and to complete the mission successfully.

Skill:

1. Demonstrate use of critical value determination prior to a mission involving interaction with civilians.

ADAPTABILITY

Adaptability involves three subordinate constructs: strategic intuition, metacognitive capability, and human agency.

- *Strategic intuition* is the use of creative insight to make decisions in time-constrained conditions when circumstances require immediate decisions. The traditional duality between analysis and intuition dissolves in a new model of the brain, in which "...analysis puts elements into your brain and intuition pulls them out and combines them into action" (Duggan, 2005, p. v). Creative insight is "The ability to take existing pieces of information and combine them in novel ways that lead to greater understanding and suggest new behaviors and responses" (Stickgold & Walker, as cited in Duggan, p. 1).

Application in the Field: Flashes of creative insight—which simultaneously take into consideration the situation, possible courses of action, and the end state—allow Soldiers to solve problems and make quick and effective decisions in the field.

Skill:

1. Make quick and effective decisions based on recognition of key patterns in dynamic situations.
- *Metacognitive capability* is the ability "To reflect upon oneself, one's sense of personal efficacy, and the adequacy of one's thought and actions" (Bandura, in press, p. 2). It involves thoughtful reflection on actual experiences in order to gain insight into what happened, why it happened, what the consequences were, and what could have been done better. Metacognitive capability is required for human agency.

Application in the Field: Warfighters use their metacognitive capability to learn from experience and create new cognitive scripts to enable adaptive actions.

Skills:

1. Use of reflection techniques to distinguish between effective and ineffective strategies.
 2. Evaluate actions after a mission to determine consistency with critical value determination.
- *Human agency* is the ability of individuals and groups to draw upon knowledge and past experience to comprehend their immediate environment and to react constructively to new situations by setting goals, anticipating the probable consequences of prospective actions within the environment, and planning courses of action that may be expected to "...produce desired outcomes and avoid detrimental ones" (Bandura, in press, p. 1).

Application in the Field: Human agency enables warfighters to assess the needs of a situation, respond appropriately, and adjust their plan of action as necessary to accommodate new information or requirements.

Skills:

1. Demonstrate ability to mentally simulate future scenarios and possible outcomes.
2. Select action based on metacognitive reflection.
3. Demonstrate ability to assess new information and adjust tactics accordingly.
4. Demonstrate ability to quickly detect and respond to a change in the environment.
5. Demonstrate willingness to learn and exploit new technologies.

HUMINT CAPABILITY

HUMINT (human intelligence) capability involves two subordinate constructs: social intelligence and situational awareness.

- *Social intelligence* is the ability to get along with people, to be at ease in society, knowledgeable of social matters, and susceptible to stimuli from others, cognizant of others' underlying personality traits, and responsive to others' changes in mood (Kihlstrom & Cantor, 2000). Social intelligence in a foreign culture is difficult to attain but essential to intelligence gathering.

Application in the Field: A warfighter with social intelligence will be able to gather actionable intelligence based on observations and interactions with the local populace.

Skills (Skills 2–7 are based on the six aspects of social intelligence described by Hendricks, Guilford, & Hoepfner, as cited in Kihlstrom & Cantor, 2000):

1. Develop a memory for names and faces.
 2. Recognize the internal mental states of individuals.
 3. Group together other people's mental states on the basis of similarity.
 4. Interpret meaningful connections among behavioral acts.
 5. Interpret sequences of social behavior.
 6. Respond flexibly to changes in social behavior.
 7. Predict what will happen in an interpersonal situation.
- *Situational awareness* is the degree of accuracy by which one's perception of the current environment mirrors reality. It involves viewing the situation, adjusting one's view in light of incoming information, and recognizing expectations or biases that will affect one's assessment of the situation and reaction to incoming information. Several factors can reduce situational awareness: insufficient communication, fatigue or stress, task overload, task underload, group mindset, a "press on regardless" philosophy, and degraded operating conditions (Naval Aviation Schools Command, n.d.).

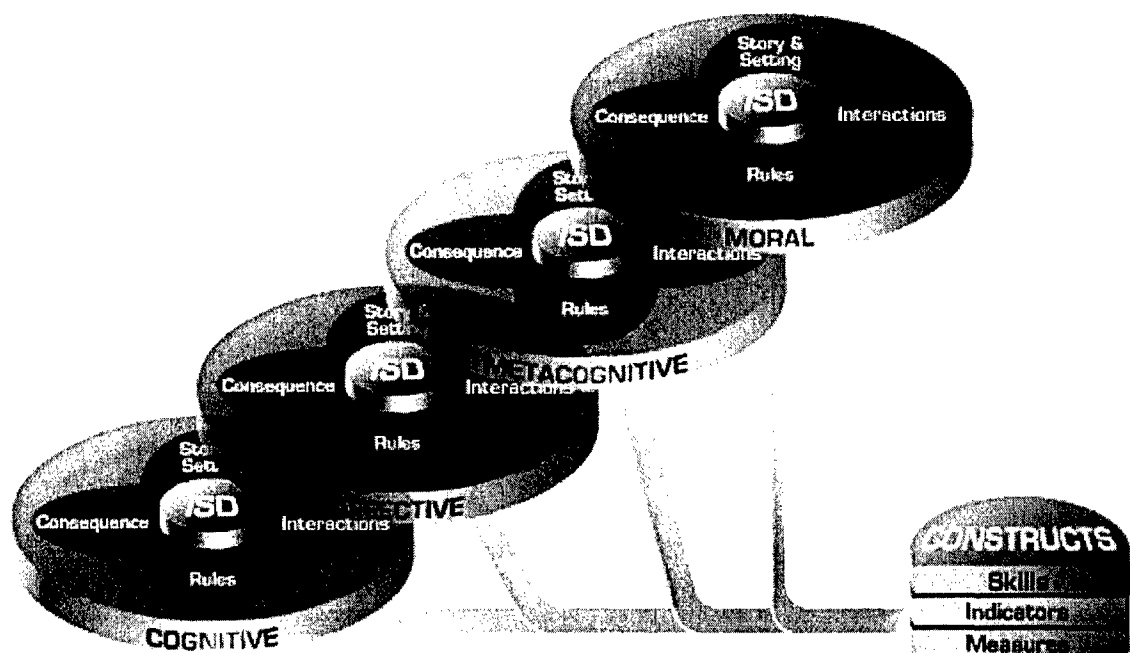
Application in the Field: Situational awareness enables the warfighter to be observant of the environment and sensitive to changes that can affect the mission. It also involves contributing to the situational awareness of others.

Skills:

1. Conceptualize a mental model of the environment, noting key features.
2. Identify key situational elements.
3. Determine the relationships among situational elements.
4. Isolate unusual occurrences in a dynamic situation.
5. Evaluate incoming information for relevance and believability.
6. Determine whether intelligence is actionable.
7. Communicate actionable intelligence swiftly and clearly to appropriate persons or agencies.

Pedagogical Framework

We conceptualized the skills associated with the JEM constructs as existing in four dimensions: cognitive, affective, metacognitive, and moral. Different scenarios will emphasize different combinations of these dimensions. Figure 1 provides a representation of the pedagogical framework. The four dimensions will be interwoven alone or in combination throughout the JEM scenarios. Scenarios will be developed around authentic problems and situations that Joint and expeditionary ground forces are likely to encounter. The constructs, skills, indicators, and measures will drive the elements of the narrative. The narrative elements include the (a) story and setting, (b) consequences, (c) rules, and (d) social interactions.



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Figure 1: JEM Pedagogical Framework

Using this pedagogical framework, we created a Skills, Indicators, and Measures (SIM) Matrix that served as a blueprint for scenario development. Table 2 shows a sample section of the matrix created for the first scenario in Phase I, including (a) skills being developed, (b) associated constructs, and (c) human performance indicators for these skills. During Phase II, the SIM Matrix will be tested and performance measures will be added to determine the extent to which participants are achieving the objectives. A summary of the scenarios and the technical outline for the scenarios are found in Appendix A.

Table 2: SIM Matrix Example for Scenario One

Primary Constructs	Subordinate Constructs	Skills	Indicators	Dimensions				Phase / Scene	Characters
				Cognitive	Affective	Meta-cognitive	Moral		
Interoperability	Shared Cognition	Develop a shared mental model	Inquire, share/negotiate, integrate	X		X		P1: Planning the Mission	1LT Jones 1LT Cochrane SSG Smith
Interoperability	Team Interaction	Recognize team partners' strengths	Create the plan to build on each partner's strengths	X				P1: Planning the Mission	1LT Jones 1LT Cochrane SSG Smith
Cognitive Readiness	Cultural Awareness	Demonstrate respect for members of other cultures	Give proper greetings Offer hospitable gestures (offer food and drink) Give proper greetings	X	X			P1: Translator arrival	1LT Jones SSG Smith Omar Hassan
				X	X			P1: Translator orders	1LT Jones SSG Smith Omar Hassan SGT Thomas
				X	X			P2: Meeting the Iraqi police	1LT Jones Uthman Janabi Omar Hassan Assem Sabah
Human Intelligence	Social Intelligence	Recognize and interpret social cues	Interpret interactions among indigenous groups	X	X	X		P2: Talking with Iraqi police	1LT Jones Uthman Janabi Omar Hassan Assem Sabah 1LT Cochrane
Adaptability	Human Agency	Respond to dynamic situation	Change tactics to address current situation	X		X		P2: Planning Reconnaissance	1LT Jones SSG Smith
Human Intelligence	Situational awareness	Observe environmental	Note empty street (comment or take	X		X		P2: Move to bomb makers'	PFC Green SGT Thomas

Primary Constructs	Subordinate Constructs	Skills	Indicators	Dimensions				Phase / Scene	Characters
				Cognitive	Affective	Meta-cognitive	Moral		
		factors that could affect the mission	action)					house	1 LT Jones SSG Smith
Cognitive Readiness	Cultural awareness	Demonstrate knowledge of cultural behavior norms	State that empty street is normal for the time of day	X				P2: Move to bomb makers' house	PFC Green SGT Thomas 1 LT Jones SSG Smith
Human Intelligence	Social Intelligence	Recognize and interpret social cues	Interpret interactions among indigenous groups	X	X	X		P3: Iraqi police start a fight	1LT Jones Uthman Janabi Omar Hassan Assem Sabah
Adaptability	Human Agency	Respond to dynamic situation	Change tactics to address current situation	X		X		P3: Covering Iraqi police	1LT Jones SSG Smith SGT Thomas SGT Driscoll PFC Green
Interoperability	Team Interaction	Coordinate actions with Joint team members	Coordinate Marine air support	X		X		P3: Covering Iraqi police	1LT Jones 1LT Cochrane
Adaptability	Human Agency	Respond to dynamic situation	Change tactics to address current situation	X		X		P3: Attack	1LT Jones SSG Smith SGT Thomas SGT Driscoll PFC Green
Interoperability	Team interaction	Coordinate actions with Joint team members	Provide Marine air support	X				P3: Attack	1LT Cochrane

Methods and Environments for Developing JEM Skills

To develop a Joint and Expeditionary Mindset involves development of skills in the cognitive, affective, metacognitive, and moral domains. There is no easy way to train for these types of skills. Learning definitions and characteristics will not enable a Soldier to apply them in real life. Instead, Soldiers must be put in situations that require these skills, they must be given the opportunity to reflect and receive feedback on their performance, and then provided ample opportunity to practice the skills until they become tacit knowledge. To provide these opportunities, the JEM training environment must provide authentic contexts, role-playing, and guided reflection in a cooperative learning environment.

Authentic Contexts

Authentic contexts involve "...practical application of knowledge . . . in a real-life situation . . . that allows examination of the information from multiple perspectives" (MacDonald, J., 2005, p. 4). The concept of anchoring instruction in authentic contexts derives from research into knowledge acquisition and transfer issues. According to the Cognition and Technology Group at Vanderbilt (CTGV), abstract knowledge stripped of contextual clues is more difficult to learn because the learner does not see its relationship to problems encountered in real life. Although memorized, it becomes inert, or unusable because it lacks the complexity of understanding needed for application to new situations (Roblyer, 2004). "Learning becomes the memorization of seemingly abstract, self-contained entities, not useful tools for understanding and interacting with the world" (Barab, Hay, and Duffy, 2000, p. 4). Learning anchored in real-life experiences results in richer knowledge structures with multiple connections that enable greater understanding and transfer. Authentic contexts can be provided through scenarios, case studies, themes, problems, issues, and real-world experiences. Because one of the objectives for this study was to define a computer-mediated training environment for JEM training, it was essential to provide an authentic context for learning. The JEM scenarios, set in realistic environments, provide complex learning experiences for developing the necessary skills associated with a Joint and Expeditionary Mindset.

Role Playing

Role playing is a proven strategy for helping learners to explore the issues involved in complex social situations in which a wide range of behaviors is possible. "Role play also provides opportunities for deep learning along with a process for confronting our existing ideas about how and why certain things happen, breaking them down, and offering a new model or set of postulates to replace the old ones" (Smith, 2004, p. 194). The goal of role play is to engage the learner in real-world thinking and problem solving and this strategy has been useful for developing individual and team-contingent competencies (Salas & Cannon-Bowers, 2000). Specifically, role play benefits learners in achieving the following outcomes:

- Analyzing personal values and behavior,
- Developing strategies for solving interpersonal and personal problems,
- Developing empathy toward others ,
- Developing tacit knowledge.

Reflective Activities: Interphase and After-Action Reviews

Educational theorists consider reflection to be a critical part of active learning. Reflection deepens the quality of learning and helps learners to create meaning from past experience to serve as a guide for future experience. It is the vehicle for critical analysis, problem-solving, synthesis of opposing ideas, evaluation, identifying patterns and creating meaning—in short, many of the higher order thinking skills (Burns, Dimock, & Martinez, 2000). Therefore, we determined that to maximize learning, we needed to include reflective activities in the JEM scenarios. We decided to model these activities after the Army's process for informal after-action reviews (AARs). AARs are discussions of events that involve remembering what happened, determining why it happened, and discussing how to sustain strengths and improve on weaknesses. Not only do they provide immediate feedback, but they also promote shared understanding and team development. Specific activities modeled after story mapping or concept mapping help to develop the metacognitive skills of the individuals while also allowing for discussion of team processes.

Instead of scheduling only one AAR at the end of an activity, we decided to have one after each identifiable event, so that each phase becomes a live learning process (Army Headquarters, 1993). We termed the intermediate events *Interphase reviews*, or IRs. Multiple action reviews recognize the ways teams develop and the need for repeated events to build understanding. Research has shown that shared knowledge and shared team understanding go through cycles. Initial understandings often break down during task performance and then build back up, usually stronger than before, when reviewed after task completion (O' Connor, 2004; Johnson, O' Connor, Lee, & Khalil, 2005). Each interaction of team performance is assumed to strengthen the team shared mental model, which improves team performance.

It is critical that the reviews do not turn into critiques or lectures. Therefore, instructors leading the IRs and AARs will guide the discussion by:

- Asking leading and thought-provoking questions that focus on the applicable constructs
- Having participants describe what happened and why, in their own words and from their own point of view
- Encouraging participants to relate what they did to subsequent results
- Exploring alternative and possibly more effective courses of action
- Steering the discussion away from events that were not directly related to the focus of the activity (Department of the Army, 1990)

Cooperative Learning Environment

A Joint and Expeditionary Mindset involves the ability to learn and work as a member of a team. Therefore, it is essential that the learning environment promote team interaction. Cooperative learning is an instructional approach that uses teams of learners who "...work together to maximize their own and each other's learning" (Johnson, Johnson, & Smith, 1991).

Cooperative learning involves five essential elements (Foundation Coalition, n.d.). Table 3 shows each of these elements and provides a JEM-based explanation.

Table 3

AJEM Cooperative Learning Environment

Element	Explanation
Positive Interdependence	The success of the mission depends on everyone on the team doing his/her part.
Promotive Interaction	How a person thinks, talks, and acts toward other team members influences how well the team performs.
Individual Accountability	Each person is accountable for doing his/her part to achieve the mission.
Teamwork Skills	The team works as a team; nobody takes off on their own and does their own thing.
Group Processing	The team reflects on its performance and thinks together about how the team can improve.

Indicators of Knowledge and Skills

Lack of performance indicators or measures for individuals and teams has been a shortcoming in the use of simulations and games (Bonk & Dennen, 2005). Measuring the dynamic, multilevel nature of teamwork or team-level performance presents a significant challenge (Paris, Salas, & Cannon-Bowers, 2000; Salas & Cannon-Bowers, 1997). Often, the psychometric evaluation of performance is conducted for the purpose of measuring skill development rather than for the purpose of obtaining predictive accuracy (Thornton & Meuller-Hanson, 2004). In addition, teamwork skills or team processes are not readily quantifiable (Baker & Salas, 1992; Paris, Salas, & Cannon-Bowers, 2000.)

In general, successful teams have been depicted as those that do the following:

- Trust one another
- Communicate and actively discuss conflicting ideas
- Commit to decisions and plans of action
- Hold one another accountable
- Focus on achievement of collective results (Lencioni, 2002)

However, measures of team performance must do more than examine the processes used by team members. Training Resources and Data Exchange (TRADE) (1995) suggest that team performance can be measured in at least four ways. Two of these approaches measure performance at the individual level (contributions to the team processes and quality of individual actions) and two measure performance at the team level (team processes and outcomes/products of team performance). Selecting indicators of team performance is far more difficult than selecting indicators of individual performance, especially in tactical decision making (TAC-DM) when team members are performing different tasks that contribute in different ways to achieving the team objective (Cooke, Kiekel, & Helm, 2001; McIntyre & Salas, 1995). Research indicates that traditional measures (e.g., time on task) do not serve as viable indicators when measuring performance of a unit (O'Connor, 2004). In conjunction with determining how to measure performance, little research has been conducted to understand team cognition and how shared knowledge affects team performance. Of the studies that have been done, most focus on SPAN-DM (slower paced and non-emergency decision making) teams rather than TAC-DM teams.

The United States Office of Personnel Management (1998) offers some guidance on the elements that should be included in measuring team performance. They suggest distinguishing between individuals' critical contributions to team efforts and individuals' non-critical contributions to team efforts and offer a measurement guide as follows:

- Failure of non-critical elements cannot bring assessment of performance down to "unacceptable"
- Assessments of non-critical elements cannot raise the assessment to "fully successful" if a critical element fails

Measuring team performance must include assessment of both team processes (e.g., roles, missions, meetings, communication, and decision making procedures) and team performance results (e.g., achievement of mission objectives or learning outcomes. The potential for assessing performance through simulations and virtual environments has shown promise because measuring performance within simulations or virtual environments provides a closer measure of performance maximum (Thornton & Meuller-Hanson, 2004)

During Phase I we identified preliminary indicators that would evidence the desired constructs within the scenario (as depicted previously in Table 1). Additional research and data collection as individuals and teams participate in the scenarios is needed to validate these indicators and determine measures of performance. This would be a vital next step in the research process.

Proof-of-Concept Scenarios

We developed two interrelated scenarios that deliberately sequence actions to promote development of specific JEM skills. The scenarios were developed using Forterra's On-line Interactive Virtual Environment (OLIVE) technology. This is a distributed software system ideal for team training with opportunities for those role players serving as instructors to respond in real time and make adaptations as needed. This platform enabled us to structure learning events designed to attain interoperability, adaptability, and survivability in a Joint operational environment in a massively multiplayer online game (MMOG) engine by immersing the learner in situations requiring these skills.

The scenarios, which are set in Iraq, require cooperation between U.S. Army and U.S. Marine forces and involve interactions with the Iraqi police force. Each scenario occurs in two phases: planning and mission. Throughout the scenarios participants must demonstrate skills related to specified JEM constructs. The story line varies somewhat to emphasize different constructs. The screen captures that follow illustrate various scenes in which players demonstrate their knowledge and skills.

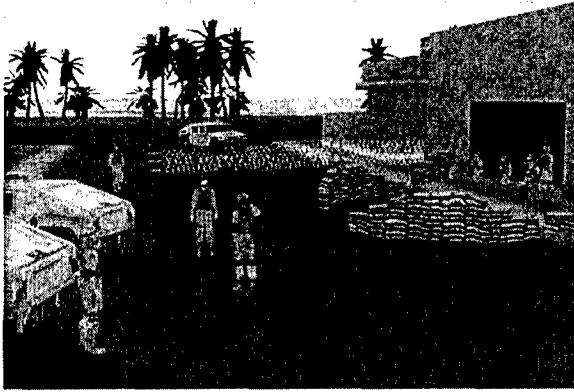
Incorporated in the scenarios are two opportunities for guided reflection: the Interphase Review (IR) and the After-Action Review (AAR). The reviews, which are facilitated by an instructor, encourage participants to reflect on critical events, their actions, the consequences of their actions, and things they would have done differently. These reflective events deliberately integrate metacognitive skill development with one of the Army's proven best practices.

The scenarios provide the context for analyzing and interpreting environmental cues and taking appropriate action. If run as two training exercises for the same group, they not only provide a means for participants to hone their JEM skills, but they also afford a basis for comparison and contrast. The IRs and AARs that are integrated into the scenarios provide opportunities for analysis and reflection and the ability to reference back to previous events. During these reviews, participants can be guided to distinguish factors of importance from mere distractions as well as note similarities and differences in environmental cues and how they affect actions and consequences.

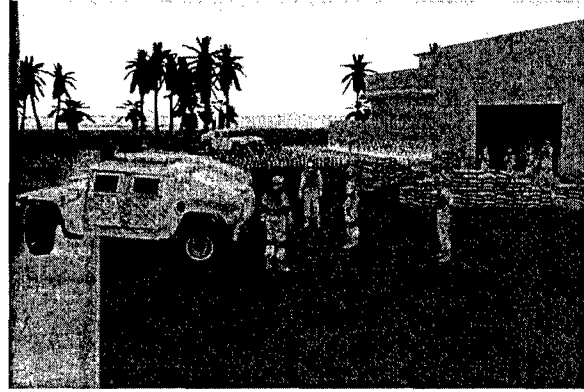
In the first scenario the Iraqi police operate as partners being helpful to a point. There is an insurgent cell nearby and they are seeking American help. However, the help the police desire conflicts with current orders to the American squad. If the squad does not detect Iraqi desires, they will be drawn into an unwanted and unintended action without adequate support, which can lead to casualties.

In the second scenario, the police are part of an ambush plot. A different set of warning signs exist in this situation. Again, if the squad uses cultural and situational awareness skills correctly, they will perceive these warning signs and act on them. Otherwise they are likely to suffer casualties needlessly.

Screen Captures from Proof-of-Concept Demonstration for US Military Academy



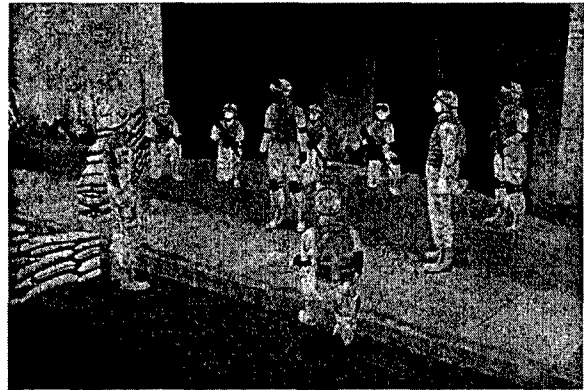
Situational awareness



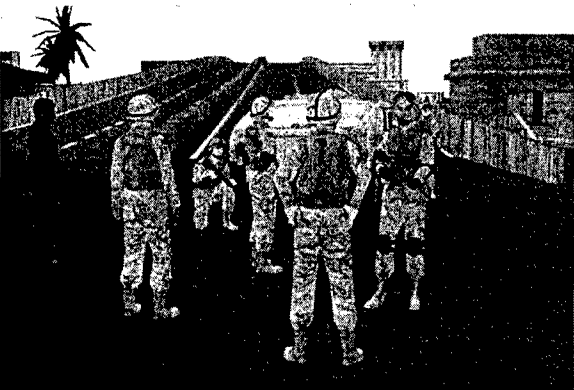
Team interaction



Cultural awareness



Team interaction/Shared cognition



Situational awareness/Human agency



Team interaction/Social intelligence

Conclusions and Next Steps

This research has identified a core set of constructs and supporting skills associated with the Joint and Expeditionary Mindset. Current needs of the military require that ground forces arrive at their destinations with sufficient knowledge to work with multiple entities, understand local culture, and adapt to rapidly changing needs and circumstances. Research indicates that a powerful approach for developing the required knowledge and skills uses a deliberate pedagogical strategy that emphasizes self-analytic and reflective activities, immersion in authentic contexts, and opportunities to promote team interaction and understanding. By carefully examining the constructs and underlying skills we have proposed a methodology for ensuring the instructional rigor of scenarios and providing a basis for identifying performance indicators. This methodology includes the pedagogical framework and the Skills, Indicators, and Measures (SIM) Matrix developed for this project.

The proof- of -concept scenarios have demonstrated the viability of using this approach. This is a sound theoretical basis that now must be tested and validated with target populations and additional scenarios.

Pilot testing scenarios and indicators.

The next steps will require pilot testing the resulting scenarios with users to collect data as they work through the scenarios. The data will enable us to (a) modify and evaluate the scenarios, (b) validate and expand the performance indicators and metrics, (c) collect baseline data to document the impact of the JEM training on individual and team performance. Ideally, multiple audiences would participate in the pilot testing, including those who could be directly observed in a school-like setting, and those in operational environments.

Because team behaviors evolve over the life-cycle of a team (Morgan, Glickman, Woodward, Blaiwes, & Salas, 1986; Morgan, Salas, & Glickman, 1994; Paris, Salas, & Cannon-Bowers, 2000), and measuring performance over a longer period of time can provide more accurate measures of typical performance (Thornton & Mueller-Hanson, 2004) a research design enabling multiple measures across time should be used during the pilot testing.

Developing rubrics and support packages for facilitators.

Assessing performance and delivering feedback to foster self development and reflection must be deliberately addressed in JEM training. Facilitators need support and guidance so they can accelerate skill development of others. Because the Interphase and After Action reflection sessions of the training play such a key role, we believe a support package to guide these processes should be developed and tested with potential users.

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Appendix A:

Outline for Proof of Concept Scenarios

JEM Scenario Outline

"Support Your Local Police"

v10

This is a series of two (or more) scenarios. Both scenarios share the same first phase. However, the second phase in each scenario is quite different.

Narrative

Phase 1 (both scenarios)

Background

Local Iraqi Police, responding to reports of suspect sabotage of a bridge, have requested US Army assistance. Although police bomb experts are reported en route to the site, the Iraqis request the US Army help them with bridge security until the explosives are removed. The bridge is a major one over the Tigris River, in a formerly upscale urban district.

The 1/88th Infantry Battalion is responsible for this Sunni district. Relations with the local police have been mixed. The battalion commander is trying to improve them by showing support and positive action whenever possible. The police department is also Sunni and mostly from the district. However, periodic insurgent incidents keep tensions high.

Unfortunately, the battalion is already heavily engaged in a major operation elsewhere. The sole exception is in Charlie Company, where a slightly under strength squad of 1st Platoon is available because of maintenance snafu involving their vehicles. To compensate for the lack of infantry, engineer and air support has been laid in by Battalion HQ for this mission. The Brigade's Engineer Company has detailed 1LT Jones to the mission, instructing him to determine if additional EOD support is required. The Engineers also "volunteered" transport for both their officer and the infantry squad to the bridge, since the infantry lacked vehicles.

Air support was obtained through a joint liaison with the brigade's immediate neighbors, the 3rd Marines. They provided a FAC (Forward Air Controller), 1LT Cochran, who has access to AV-8B Harrier jets and AH-1W Sea Cobra attack helicopters. Cochran is an NROTC grad and this is his first active duty tour.

Finally, a civilian translator is attached to the Squad. Omar Hassan is a local Sunni who knows the area. This is his only his third time working with Charlie Company, and the first time this squad has worked with him.

Phase I Activities

1LT Jones and 1LT Cochran, USMC, arrive at Charlie Company's base in accordance to orders. They are greeted by Platoon Sergeant SFC Williams of 1st Platoon, who has Captain Trask of Charlie Company on the radio. The Captain welcomes them, apologizes for not being available in person, summarizes the mission, and indicates that First Sergeant Williams will provide a detailed briefing.

First Sergeant Williams introduces SSG Smith, leader of the infantry squad, to the Engineer and Marine lieutenants. He also introduces Omar Hassan, their translator. Omar is from a nearby town and a Sunni. Due to the fact that the Engineer Company transport is waiting, and the Iraqis already en route, time is short.

1LT Jones, 1LT Cochran, and SSG Smith can now develop an operational plan for dealing with the bridge and with the Iraqi police. Immediate issues are the deployment plans for the squad, Jones' role as Engineer and OIC, and Cochran's role as FAC. Jones may be unfamiliar with infantry tactics, Smith will be interested in the welfare of his men, and Cochran harbors a secret desire to be John Wayne. Resolving these issues of joint operation and developing a cogent plan is a key challenge for all three.

Next Sergeant Smith has the opportunity introduce the officers, then issue specific orders in support of the operational plan. Phase I ends with the entire force (Jones, Cochran, Smith and troops) departing the base.

Travel to the operational site is not part of this exercise, but is assumed to occur in a heavy truck (from the Engineer Company) and 1LT Cochran's unarmed HMMWV. Travel planning and execution is not part of this exercise.

Interphase Review (both scenarios)

When phase one ends, the training leader moderates a short (approximately 5-10 minute) session with the trainees. OLIVE's ability to replay the session on demand, including hearing what was said, is extremely useful.

The training leader(s) lead a student discussion with attention to interoperability and cognitive readiness skills. For example, the interoperability aspects of the operational plan involve 1LT Jones, 1LT Cochran, SSG Smith and the translator Omar Hassan. Hassan represents an potentially invaluable local resource which the leaders need to appreciate. Discussion could also cover cognitive readiness, particularly self-efficacy, with the infantrymen in the fireteams.

Conducting a review that pursues learning goals midway through the exercise is an important part of the educational experience.

Phase II (common to both scenarios)

Overall Phase II Activities

The second and final phase of the exercise begins with the force freshly debarked from transport at one end of the bridge. The Engineer company transport departs, but 1LT Cochran retains his unarmed HMMWV.

The American force meets a two Iraqi Policemen at the bridge. The situation they encounter is very different from the initial briefing. The Iraqi police, who speak some English, say there is a misunderstanding. There is no bomb on the bridge. Instead, they have information that an insurgent group in a house near the bridge is preparing bombs. The bomb-makers will be departing very soon. They need US Army support immediately to stop the insurgents before they finish and leave the area.

The Americans can radio headquarters for instructions, discuss the situation with the police, investigate the bridge, and/or investigate the nearby house with the purported insurgent bomb-makers. Discussion with the Iraqi police may help determine the actual situation, but the police are clearly anxious to move quickly. Radio contact with headquarters will result in orders to insure the bridge is under no threat, then continue working with the police to recon the bomb house story and report. The squad is reminded to minimize hostile contact since they are currently operating independently.

Any investigation of the bridge by the American force will reveal that no bomb exists on or beneath the bridge. The bomb-making house is only a few blocks from the bridge, within easy walking distance. What the Americans discover upon checking out the house varies greatly depending on the scenario variant (see below).

It is assumed that the squad will eventually follow orders and move on the bomb-making house.

During the movement 1LT Cochran learns by radio that his on-call air support may be unavailable due to a higher priority situation elsewhere. He can inform or withhold this information as he wishes. Presumably his working relationship with 1LT Jones and the squad will influence his decision.

Multiple Scenarios

The difference between the scenarios appears in phase II. Even if trainees have some advance knowledge of the scenarios, the similarity in phase I and the early part of phase II insures that they must pay attention to the situation as it develops to determine the proper course of action.

This project demonstrates two scenarios. However, a fully developed training program could have three, four or more scenarios that all shared the same first phase.

Phase II, Scenario 1 - The Bomb-Makers

In this scenario the Iraqi police are telling the truth. There is a rebel bomb-making house nearby. The police are positive, helpful, and willing to work cooperatively, provided the Americans accompany them to the bomb-making house and stop the bomb-makers.

The police are motivated by their status as residents in the neighborhood. They want to keep things safe and quiet, but on the other hand they are unwilling to arrest someone who might be their neighbor's brother or cousin! This means they will seek to ensure that any unpleasant actions are done by the Americans and not themselves, up to and including shooting the bomb-makers. As a result they will be quick to provoke a firefight, but then be quite happy to stand back and let the Americans resolve the fight they started.

The American challenge is to determine enough information to locate the bomb-making house, confirm that something suspicious is happening, while simultaneously discerning the Iraqi goals and preventing a fight. If they succeed in this and report to headquarters, the report will end the scenario in an outstanding success for the Americans.

It is common for the Iraqi police to successfully provoke a firefight. The Americans will then need to make a number of important battlefield decisions. If they decide to engage, the squad will look to the FAC, 1LT Cochran, for air support. Air support will still be unavailable, but will reserves will be on station soon. In compensation for this embarrassment, Cochran may volunteer or even attempt to lead an assault on the house personally, asking the nearest fireteam to accompany him. If the squad's sergeants allow this to occur, the squad almost certainly will suffer casualties. Eventually air support will arrive, including medevac if needed, and the scenario ends.

Phase II, Scenario 2 - The Ambush

In this scenario the Iraqi Police have been infiltrated by insurgents and the situation is a trap. The Iraqi police officers want to lead the Americans into an ambush. As a result, they will be unhelpful and uncooperative in any alternate plans or movements, stressing the need for instant action against the supposed bomb-making house. In addition to the police attitude, there are other clues indicating an improper situation, such as a lack of activity on the street (except during known rest times).

The translator will certainly smell a rat. If he does not find a way to discrete warn the Americans, he will find an excuse for walking away, probably by picking an argument with the Iraqi Police and/or the Americans, and then walking off the job.

The trap is a pre-planted remote IED along the approach route to the house, with two insurgents concealed in sniper positions. When the squad arrives at the ambush spot, the police run away down a side alley as the IED explodes and the snipers open fire. If the police are unable to escape, they will avoid participating in the fight. In an alternate version, the police are so fanatical they will attack the Americans as well.

If this firefight develops, 1LT Cochran will find his air support is still unavailable. He will volunteer or attempt to personally lead nearby infantry in an assault on the house. Meanwhile, the insurgents will seek to inflict maximum casualties, then abandon their position and escape. When air support is finally available the scenario ends.

If the Americans correctly read the inflexibility of the Iraqi Police as a cause for suspicion, are tipped off via a good working relationship with the translator, and/or correctly read streetwise indicators, they can take appropriate action. This would be a search for the ambushers. The policemen will ultimately get frightened and try to escape, leading to their possible capture as well.

Other Possibilities

Other scenarios are possible. In one the bomb-making house exists, but the bomb-maker has finished his task and the bomb materials have been taken away. He and his compatriot act like innocent civilians. The Iraqi police know better and attempt to goad the Americans into taking the insurgents into American custody. (Remember, the Iraqi police will not arrest the bomb-

makers themselves.) Various civilian bystanders, some of whom may be very angry, will complicate the situation at the bomb-making house.

Another scenario would have no bomb-making whatsoever. The rumor of bomb-making was created by someone with a private grudge against the occupants of the house. Not coincidentally, one of the policeman also has a grudge against the occupants. He will try to provoke the Americans into performing the most extreme acts possible against that house. His partner will simply stand back and avoid taking sides. Needless the say, if the Americans correctly understand the situation, they will avoid taking action against innocent civilians.

After Action Review

A formal AAR is held after the scenario. All participants can view a digital recording of the scenario, with the instructor stopping at key points to ask questions, discern the reasoning of participants, and lead the discussion regarding alternate courses of action.

Technical Outline

Information applies to either scenario

I. Setting

"Virtual Baghdad"

Briefing location

(back alley somewhere in an Iraqi city, HumVees and Bradleys around)

Bridge and nearby street

Bridge over river

Nearby street with bomb house and potential ambush location

II. Key Personnel - Either Scenario

(total of 16 to 20 people)

A. Trainees: 10

1LT Jones, Engineers, commanding officer

1LT Cochran, USMC, air liaison officer

SSG Smith, squad leader

SGT Thomas, leader, fireteam alpha

PFC Ellis (SAW)

PFC Franks (M16)

PFC Green (M16)

SGT Driscoll, fireteam leader

PFC Iwata (SAW)

PFC Johnson (M16)

Note: One fireteam is shown under strength purely for demo purposes, in actual training full current strength would be used.

B. Trainers: 1-2

These monitor and supervise the exercise as a whole.

In addition they play the role of higher level command and support.

This includes:

CPT Trask, CO, Charlie Company

Experienced leader, involved in major action elsewhere.

Delegates as much as possible to SFC Williams

SFC Williams, 1st Platoon Sergeant

Effective, veteran leader, involved in major action elsewhere.

Aggressive problem-solver, believes success requires risk

USMC MEB TACP/FAC - callsign "Grinder Four"

USMC AV-8B aircraft - callsign "Showtime Five"

C. Role-Players (5-7)

Translator: 1

Omar Hassan: Sunni Iraqi civilian translator employed by US Army

Iraqi Police: 2

Uthman Janabi, Sunni, Local resident, speaks some English

Assem Sabah, Sunni, Local resident, speaks a little English

Insurgent Opponents: 2

Scenario 1 - The Bomb-Making House

Insurgent #1: bomb-maker, Sunni, cousin of local resident

Insurgent #2: lookout, Sunni, local resident

Scenario 2 -:The Ambush

Insurgent #1 with IED controls, Sunni, relative of local resident

Insurgent #2, Sunni, friend of Sniper #!

Civilian Bystanders: 0-3

Bihari Hamed, Sunni, housewife, local resident

Tayseer Mashhadani, Sunni, female, local resident

Bakr Marwan, Sunni, male, unemployed, local resident

D. SAFs

Civilian Pedestrians

Walk on pre-programmed patterns on local streets.

In ambush variant removed from streets near the bomb house

Civilian Residents

Periodically move from front yard to back yard of their house.

Periodically move from one back yard to another back yard.

III. Timeline (Estimated)

A. Phase I - Briefing (8-15 min)

1. Introduction by Platoon Sergeant SFC Williams (2-3 min)
2. Operational Planning by 1LT Jones, 1LT Cochran, SSG Smith (2-6 min)
3. Initial Briefing by 1LT Jones to unit (1-2 min)
4. Tactical Planning by SSG Smith with his squad (2-4 min)

B. Interphase Review (5-10 min)

1. Instructors lead review of phase one with trainees.

C. Phase II (12-30min)

1. Meet Iraqi Police at Bridge, Change of Plan (8-16 min)
 - a. learn the true story (1-2 min)
 - b. Americans may question police (2-4 min)
 - c. Americans may investigate bridge (2-4 min)
 - d. Americans will almost certainly call headquarters (1-2 min)
 - e. New operational plan is made and so ordered (2-4 min)
2. Americans move on house (4-14 min)
 - a. March to house (2-4 min)
 - b. Interaction with police (1-2 min)
 - c. Potential initial engagement (0-2 min)
 - d. Potential counterattack by 1LT Cochran (0-3 min)
 - e. Potential continuing firefight (0-2 min)
 - f. Scenario end events (1 min)

D. After Action Review (27-60 min)

1. Instructor runs the recording of phase II (12-30 min)
2. Instructor leads discussion at various points in replay (15-30 min)

E. Totals

Overall estimated duration of entire exercise: 55-140 min

Expected duration of exercise: 120 min.